

Stent-grafting for the Large Common Carotid Artery Aneurysm

Case Report

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Introduction

Spontaneous large aneurysms of the common carotid artery (CCA) are rare. Treatment strategy has not yet been established. We treated a patient with a spontaneous large aneurysm of the CCA with a stent-graft. We hereby report the case of successful endovascular treatment and its angiographic and ultrasonographic outcome.

Case:

A 64-year-old woman with a history of transient right-sided hemiparesis visited our outpatient clinic at November 20, 2003. In addition, she had suffered from the soft mass getting larger in the neck. Carotid ultrasonography showed a large aneurysm of the right CCA in her neck, and the large aneurysm was her palpable soft mass. Magnetic resonance angiography (MRA) and carotid arteriography displayed it clearly. However, no vascular lesions were found referable to transient right-sided hemiparesis. She had no history of serious neck or head traumas.

After showing some treatment options, she hoped to undergo endovascular treatment with a stent-graft at January 20, 2004. Pre-operative angiography showed the large right CCA aneurysm with 19 x 11 x 6 mm in size and the diameter of the right CCA near the aneurysm was about 7 mm. Under local anesthesia, we intro-

duced 10Fr long sheath type guiding catheter into the right femoral artery and navigated it proximal to the right CCA aneurysm. After systemic anticoagulation with heparin, we measured carefully the diameter of the aneurysm by IVUS (intra-vascular ultrasonography). Then, we navigated a microcatheter (RapidTransit, Cordis) inside the right CCA aneurysm through the left femoral artery for possible coil embolization. We successfully deployed a self-expandable stent-graft (PASSAGER 10 mm _ 40 mm, Boston Scientific) through the 10-Fr guiding sheath and dilated it sufficiently with an 8-mm balloon catheter. Immediately after post dilatation, the stent-graft was expanded enough to contact the CCA wall, and the aneurysm disappeared on angiograms. Therefore, we didn't perform coil embolization. Post-procedure carotid arteriography showed no visualization of the aneurysm. Three-month and twelve-month carotid ultrasonography and arteriography demonstrated complete obliteration and no recurrence of the right CCA aneurysm.

Discussion

Spontaneous common carotid artery aneurysms are rare, and treatment strategy has not yet been established. In general, asymptomatic aneurysms should not necessarily be treated surgically.

In cases of symptomatic large aneurysms such as local haemorrhage, thromboembolic episodes or mass effect, surgical treatment such as grafting or bypass has been attempted. Some previous studies have reported endovascular treatment, e.g., stenting, stent-grafting, or stent and coils, as less invasive option for various lesions in the cervical vascular territory¹⁻⁵.

Our patient had a spontaneous large aneurysm in the CCA, and suffered from the palpable soft mass getting larger, worried about rupture, and hoped to undergo endovascular treatment. Therefore, we attempted endovascular therapy and planned to perform stent-grafting without coils, although they stood by. In fact, the stent-graft was able to cover the neck of the large aneurysm completely, and adjuvant therapy using coils were not needed. The palpable

mass has not recurred for one year and three month, twelve month ultrasonographic and arteriographic investigation demonstrated no recurrence of the aneurysm.

In case of woman, cosmetic viewpoints are very important. Compared with other invasive treatment options such as grafting or bypass-surgery, endovascular treatment is less invasive and the patient discharged our hospital soon^{6,7}, and there are no cosmetic problems in the cervical regions.

Conclusions

Stent-grafting is feasible and effective treatment option for the large common carotid artery aneurysm. Good one-year clinical and angiographic outcome can be expected.

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